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THE
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Poetry.

THE MAGNETIC TELEGRAPH.

BY JAMES G. PEABODY.

What mean the miles of gleaming wire,
Stretched out afar o'er hill and plain,
As if to string some massive lyre,
To ring out earth's redeeming strain?

It is a lyre, whose every string,
Shall vibrate to the praise of man;
Such tribute to his genius bring,
As ne'er was made since time began.

It is the masterpiece of earth—
The climax of all future might—
Where man, forgetful of his birth,
Infringes on Jehovah's right.

It is the path where lightning's fly,
Obedient to man's lordly will,
Who forced them from their native sky;
And chained them down on every hill

Once they were messengers of God
And flashed through heaven's remotest span,
But now they've left their high abode,
To herald out the ways of man

No more we'll trust the carrier dove,
Or iron steed, or lagging gale,
But call the lightning's from above,
To spread the news and tell the tale.

They far outspeed the rolling Earth,—
And put the oar of time aback,—
Before the future has its birth,
'Tis past upon the spirit track.

That track—the great highway of thought—
Where distant nations converse hold;
Ere word is said, or deed is wrought,
'Tis whispered round and round the world,

From east to west—from pole to pole—
Wherever man has pressed the sod—
The every thought of every soul,
Is omnipresent like as God.

It binds the nations all in one,
And thrills its pulse throughout the union,
Till every kingdom, tribe and tongue,
Shall live and act in full communion.

THE VOICE OF LOVE.

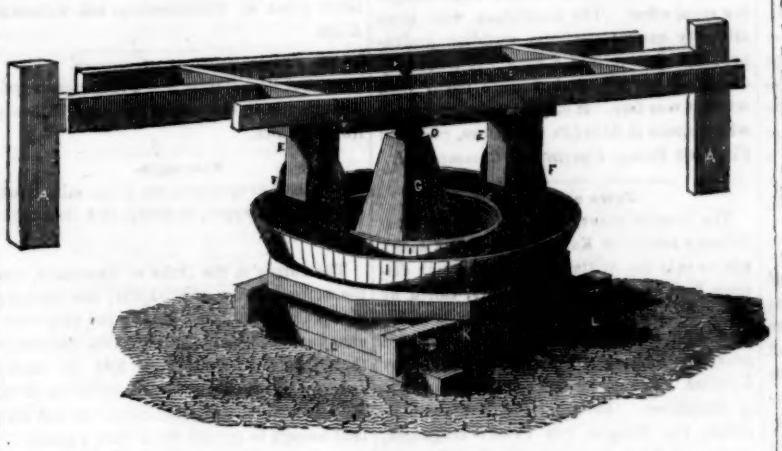
Oh? never speak with angry tone
To one within this erring world;
Let no vindictive look be shown,
Nor be thy lip with passion curled;
For man at best is frail as dust,
And God alone is truly just

Be kind to all, and thus fulfil
The first great duty here below:
Let words of love their sweets distill
To mitigate thy brother's woe,
For though in pride and guilt he dwells,
His heart its own deep anguish tells

Speak kindly to the little child,
Lest from his heart you drive away,
The light of Love whose visions wild
Are opening like the dawn of day;
Force not one cloud across the heaven
A God of Love to him hath given.

In the deep chambers of the soul
To guilt there's no approving sound,—
But ever heard, with fearful roll,
Stern truth's rebukes are echoing round:
And ever deeper is their moan,
As conscience feels the vice her own.

ROWE'S UNIVERSAL PULVERIZING PRESSURE ORE MILL.



Mostly all the machines that are employed for pulverising ores and minerals, are constructed to grind by the weight of that part of the machine which rolls upon the material to be pulverized. Broad heavy iron rollers have been most commonly used for this purpose, the grinding or pulverizing being effected by their gravity. The above machine is constructed upon a different principle, as the gravity is employed along with lever power, thereby combining both weight and power in a very simple and effectual manner.

Explanation.—The machine is simply two rollers moving in a circle, shaped like the outer part of a saucer with a cone in the middle, the rollers being intended to be propelled by horse power, are moved by the lever shafts A A, which are attached to the centre of the cone G, by a strong iron shaft D, which runs through the moveable beams, or levers B B, on the cross beams of the levers combined with and part of A A. F F, are the moveable rollers attached to the cross beams by upright shafts keyed on the axles of the rollers. L L and K, represent the frame or base on which the mill is built.

Operation.—This Mill can employ from 1 to 100,000 pounds of pressuro, as there is a scaffold above the cone or centre support G, which can be laden with stones and exert any desired weight upon the rollers F F. These rollers are convex face, made of chilled iron and only about two inches broad. In this consists the great merit of the machine, as there is but a small grinding surface, but an immense power exerted upon that surface, grinding all kinds of ore in a wonderful short space of time. The inventor says he can pulverize of the hardest ores a thousand bushels in twenty four hours. The cup, or hollow race on which the rollers move, has numerous cross projections on it, so that the ores never slip from the face of the rollers and no action is lost. There is no fear either of breakage to the machine, by the rollers rising over the projections or large pieces of ore, as the shaft D works in a gudgeon and the whole frame accommodates itself by rising and sliding down on the said shaft.

This Mill is also a good Corn Mill. It will pulverize six bushels of unhusked corn to fine chop in one hour. The whole machine is of very simple construction, easily erected and kept in repair, as there is no fine machinery about it. Mr. James Rowe, of Cincinnati is the inventor and patentee. A. B. Allen & Co No. 187 Water street, this city, are agents, and it can now be seen at Madison Cottage, 23d street

An Honest and Peaceable People.

To every county in the United States we would say, read the following and go ye and do so likewise.

At the semi-annual term of the Court of Common Pleas for Barnstable county, Mass., though there was an able judge present in the form of Judge Ward, a suitable posse of officers, headed by the energetic sheriff, Hinkley; the full complement of grand and petit jurors, without a missing man of the panel; a melodious crier, in the person of the prompt Mr. Blish, to open the Court; a learned clergyman, Mr. Palfrey, to make the prayer in conformity to the pious usage of our ancestors; and a bar full of lawyers qualified to maintain either side of any cause, yet, after all, not a case, civil or criminal, was found for the juries. In six months not two men could be got to law with each other, and nobody had committed a crime that required a verdict of guilty or not guilty. The like cannot be said for any like number of forty thousand civilized people in the world. It is one of the good fruits of the principles planted by the Pilgrims who first landed at Provincetown on the end of good Cape Cod.

Tea Trade of China.

The Friend of China of the 22nd ult. gives the following comparative statement of the quantity of tea exported in 1846 to the undermentioned countries; To England, 53,448,349 lbs. United States, 18,886,287 lbs; Holland, 2,518,540 lbs; Hanse Towns, 1,071,560 lbs; France 226,700 lbs. The quantity exported from France in preceding years was 364,580 lbs. Among other articles exported last year from China to America, were 18,685 boxes of fire-works. The Ashburton arrived on the 21st August at Hong Kong from Boston with a cargo of ice.

Selling Baggage at Auction.

"Fourteen seventy-five! Fourteen seventy five!" roared the porter as he was calling off the baggage at the Boston and Worcester Railroad station upon the arrival of the Western train a few evenings since. A countrymen, who had been sometime loitering about the premises in expectation of "seeing the Elephant," hereupon made his way through the crowd and exclaimed, "Oh, come now mister, that's a pretty considerable good looking trunk to go for that price, *Ill bid fifteen dollars on it!*"

A Bull.

The following address to the public by the editor of a Dublin paper:—"We have too many apologies to make to our readers for the many typographical errors and ommissions that have appeared in our journal of late."

RAIL ROAD NEWS.

New Route to the Pacific.

A writer in the Washington Union says a railroad 600 miles long from Presidio, de Rio Grand to Guayamus in the Gulf of California would secure a continuous steam communication from the Atlantic to the Pacific. He thinks it much preferable to the route by the Isthmus of Tehuantepec, or that of Darien. The expense would be slight compared with Mr. Whitney's project of a railroad across the continent.

Inclined Planes and Tunnels of American Rail Roads.

There are 19 roads with inclined planes, requiring stationary engines, and on the Postage Road, over the Alleghany Mountains in Pennsylvania, there ten inclined planes in a distance of 30 miles.

There are 15 tunnels on 12 different roads the longest being on the Long Island Road under Atlantic street in Brooklyn, which is more than half a mile in length. There is a tunnel 700 feet long through solid rock on the Harlem Road, near New York. On the Reading Road there are three tunnnels, 960 1600, and 1993 feet long This road though only 92 miles long cost $10,538,540.

Investments in Railroads.

In seventeen years 5,000 miles of rail road have been constructed in the United States, at an expense of $120,000,000.—This is unprecedented in the History of Civil Constructions. It demonstrates, beyond any other fact the gigantic growth, the unceasing industry, and cumulative power of Capital in this new and vigorous nation.

The present Annual Investment, in Rail-Road Constructions is about $15,000,000. The actual saving in the expenses of transportation, probably greatly exceeds this. In this way rail roads on good routes, (and in our new country nearly all are good) thus act as Savings Banks.

A number of very interesting facts relating to Railways are to be found in Dogget's Guide, a valuable work.

Buffalo and Mississippi Rail Roads.

The Toledo Blade says that negotiations are now pending which promise a speedy commencement and vigorous prosecution of this important thoroughfare. The determination to build it, is, as we are informed, decided. It is not improbable, that the route will intersect the Erie and Kalamazoo Rail Road at some point; but we hope no difference of opinion, as to the choice of routes, will disturb the union of effort necessary to commence and complete the work.

Rapid Travel.

The cars now run through from Baltimore to Philadelphia in the short space of five hours and a half. Should ever there be a railroad bridge across the Susquehanna, this of course will be greatly exceeded.

Canal Across Florida.

The Apalachicola Adv., contains a communication, setting forth the feasability of uniting the waters of the Gulf with those of the Atlantic. The writer says a ship canal 47 miles long, connecting the Wathlacochee river on the Gulf side, with the St. John's which flows into the Atlantic, will accomplish the object. The expenses of such an undertaking is estimated at $500,000. There can be no question as to the advantages of such a work.

Plank Road.

It is proposed to construct a Plank Road from Schenectady to Saratoga Springs, by way of Ballston. Books of subscription will be opened on the first of December. Such a road cannot fail to be advantageous to the business interests of that city, as well as to the towns through which it may pass, and a good investment to the stock-holders.

New York Mechanics' Institute.

This old and excellent institution commenced its annual course of Lectures in the Hall, No 347 Broadway, last Monday evening.—Professor Hume delivered the introductory lecture of a course on the "application of chemistry to the arts and sciences." Mr. H. although but a young man, is a recondite chemist, a chaste and agreeable lecturer. The audience on Monday evening was very respectable and no doubt but the lectures of the Institute will be well attended this winter, as the course is a splendid one. There is not a young mechanic or artisan in our city, who desires to be esteemed as an intelligent man, but should be a member of this Institute.

Home Manufacture of Gas.

Many of the proprietors of our hotels and public buildings contemplate manufacturing their own gas. The new Broadway Theatre is lighted with gas made on the premises and a small apparatus in the basement furnishes enough for the whole establishment. Brooklyn surpasses this city in this kind of enterprise. We hope yet to see all our private buildings lighted economically with gas and heated economically upon some general plan. Every block of houses that is to be built hereafter, should be constructed so as to embrace Count Rumford's principle in the economical radiation of heat.

Gutta Percha.

We have seen some of this strange gum, which we have formerly described in a number of articles, made into most excellent soles for boots and shoes. It is also the best substance yet discovered for bands to drive machinery. Mr. Eugene Dupuy, Pharmaceutist, No. 609 Broadway, has a number of fine specimens of it in his possession, which he is manufacturing into articles of Surgery. We believe that this substance is yet destined to effect an entire revolution in some of the arts.

Discovery of Platinum in France.

A late Paris paper says: "M. Gueymard has just informed the General Council of Isere that he has discovered a vein of platinum in the metamorphic district of the valley of Darc, which he hopes to work to advantage. Hitherto this precious metal, which combines with incomparable hardness the lustre of gold and silver, has only been met with in the Ural Mountains, and its scarcity has always rendered the price very exorbitant."

John Fitch.

While John Fitch, the man celebrated in his connection with the steamboat, was confined on Prison Island, he made himself a set of tools with scarcely any means at his command. His tools were an axe, hand-saw, chisel, iron wood-wedge, shoemaker's hammer, fore-plane, augur, grindstone, jack-knife blade and some old hoop iron. With these tools he constructed nine wooden time-pieces, three hundred pairs of brass sleeve-buttons, eighty pairs of silver ones, repaired buttons, and engraved names. John Fitch was the most ingenious and contriving man that ever lived.

Patent Buttons.

Henry Clay, not of Kentucky, but of Birmingham, England, a japanner, has taken out a patent for making buttons of *dyed materials* which have never been used for this purpose, such as mohair and worsted, and which are said to be very ornamental, thus enforcing with modern ingenuity the old bye word, "Birmingham for buttons."

West India League.

The West India Islands are about forming a grand league which will result, unless Britain acts wisely, in the separation of those islands from the mother country. Old colonies will not always be content to dangle at the apron strings of old patrician maids and younger sons of peers, who look upon foreign estates with the same feelings as they do upon their hunters and hounds.

Singing Mouse.

A gentleman living in George Street, had, for several nights, heard an unusual sound in his bedroom, first in one part and then in another, resembling to his fancy the notes of a distant mocking-bird. The strangeness of the sound created a suspicious fear in the family and the gentleman determined to solve the mystery, if possible. Night before last the sound was repeated, in varied notes of remarkable sweetness—like the canary, the quail, and other of the feathered songsters. He traced it to the cupboard, and upon opening the door, found a little mouse squatting in one corner, with his throat widely expanded in the vocal effort. The Gentleman with some difficulty caught the little warbling quadruped, and put it into a cage. It frequently chirps in its prison, but more teebly than when it was free. It may be heard of by those who enquire at Scovill's drug store, corner of Fifth and Race,—*Cincinnati Commercial.*

Jews at Odessa.

The Russian government has just ereated at Odessa a school for Karaite Jews, a sect which admits only the written law, and which dissents from the rest of the Jews, called by them Rabbinits, who acknowledge the Talmud and the oral law. In the southern provinces of Russia there are a great many Karaites. The school was opened on the 15th of September. Religion, the Hebrew language, the Russian and French languages, arithmetic, book keeping, the knowledge of commercial law and penmanship are taught in this school.

Tobacco.

In Ohio, the quantity raised this season is supposed to be not over 6,000 or 8,000 hhds., against 20,000 hogsheads last year. A good deal of last year's crop will be kept at home on account of the break in the Pennsylvania canal, and will be sent to market next summer with the new.

The Cotton Crop.

There are various reports from different districts of the Southern States in relation to this year's cotton crop. The quantity raised in all probability will fall somewhat short of the yield of 1846.

Inflated Horse Collar

A horse collar has been invented in England which must be regarded as a very great improvement. It contains a tube of india-rubber, or other suitable substance, inflated with air like a life preserver.

Prying.

Don't pry into the secret affairs of others. It is none of your business how your neighbor gets along, and what his income or expectations may be, unless his arrangements affect you. What right have you to say a word or protrude your advice. It is no mark of good taste, good breeding, or good manners to pry into the affairs of other people. Remember this.

Adulteration of Flour.

The *London Journal of Arts* for the present month has translated from the "*Bulletin de la Societe d' Encouragement,*" a scientific description of sure and certain means of detecting the adulteration of Wheat Flour, communicated to the society for the encouragement of National Industry, Paris, by M. Bonny, and reported by M. Bussy. It fills 6 pages of the Journal, and embraces adulterations by the fecula of potatoes, by leguminous flour, such as pease, haricot beans, vetches or horse-beans, &c., Indian corn, rice, buckwheat and linseed.

Damages for enticing Workmen away.

In the Maine Circuit Court of the United States, in the case of Levi Brown vs. Wellington Burnett, the jury returned a verdict of $300 for the plaintiff. The defendant was charged with having enticed away two workmen who were under a written contract to work for the plaintiff for two years.

An American China Manufactory.

We learn that a gentleman named Ridgeway, from Staffordshire Eng.. has established a manufactory of china and queensware on the Big Sandy River, in Virginia, within a mile and a half of the Ohio.

An Editor "Corned."

John Means, editor of the "Wayne County Democrat" at Wooster in this state, has spliced himself at last, to Miss Kate Corn. As small means will be gradually added to his store, we hope he will never refuse to acknowledge the *Corn.—Cincinnati Signal.*

Capt. Forbes has received a testimonial from the inhabitants of the city and county of Cork, in the shape of a large and massy salver of solid silver, measuring thirty inches in length by twenty in breadth, richly and beautifully chased with a heavy border of ornamental work; the whole being an elegantly finished piece of workmanship, and valued at £150.

Distinguished Strangers.

A royal Bengal tiger and a rhinoceros, arrived recently in this city in the bark Talisman from Calcutta.

Sausages.

The best proportions are 3 lbs. salt, 10 oz. sage, 10 oz pepper, to every 100 lbs. chopped meat.

The Palace of the Duke of Newcastle, cost the enormous sum of $300,000; the chimney pieces alone $72,000. How many poor wretches have starved in their frightful destitution that this one man may live in luxury and magnificence. He has an estate of 20 miles in length, while thousands do not own land enough to furnish them with a grave.

Statistical evidence, ranging over a period of thirty years, and collected from ninety-six shipping ports European and American, does show that the average price of wheat in these countries taking one with the other, is 32s 6d per quarter. The same evidence proves that the average freightage to this country is abont 12s. per quarter, but this will be reduced when the navigation laws come about.—*Buff. Commercial.*

The rumour gains credence in circles of highest authority of the symptoms of insanity having been decidedly manifested by Her Majesty, Queen Victoria. The well known liability of her family to this cruel malady is strengthening the probability of the report

A yankee, on visiting the menagerie for the first time, while stalking round the pavillion, suddenly came on the elephant; whereupon he turned to the keeper, and said, with surprise: "Thunder and lightnin" mister what darned critter have ye go here with a *tail on both ends?*

I have heard a good story of our old friend Charles Fox. When his house was on fire he found all effort to save it useless, and being a good draughtsmen, he went up the next hill to make a drawing of the fire; the best instance of philosophy I ever heard of.—Southey.

The New England Society of Brooklyn, N. Y., formed of New Englanders and their descendants in that city, will hold a celebration on the 22d of the present month, the anniversary of the landing of the Pilgrims on Plymouth Rock. An oration will be delivered on the occasion and a festival held to which ladies will be invited.

A journalist has discovered that, all things considered, railways are very slow, and behind the age He says, that when travelling he blushes to think the message on telegraph flies like lightning, while he is lazily creeping on at only 30 or 40 miles an hour.

The Germantown Gazette, a valuable exchange takes our correction straightforward and with honest good nature. It will be observed that most of our extracts are condensed and pruned of all extraneous language.

The ship Ontario arrived at Glasgow recently from Quebec, having made the passage in fifteen days.

The two Goverment snag-boats Samson and Sevier, built at our city in 1843, at a cost of 60 or 70,000 dollars were sold at Paducah, on the first inst., for the aggregate sum of $3,-643

The Lachine Railroad, Canada, was opened to the public on Friday last.

Corn Crop of the United States.

The corn crop of this year is estimated at 600,000,000 bushels; in 1845, it was 417,897-000 bushels. The yearly exports from 1791 to 1819, several times arose above a million bushels, sometimes over two millions, but from 1819 to 1845, they did not in any one year amount to a million. In 1846, the exports were 1,825,068 bushels corn, and 298,-786 bbls. corn meal. In 1847, the exports have arisen to the enormous quantity of 17,-272,815 bushels corn, and 944,059 bbls. corn meal.

Hint to Wine Drinkers.

On Friday 103 hogsheads of adulterated wine were brought out from the entrepot of Paris, and their contents spilt in the Seine. "Immediately after this operation (says an eye-witness) the surface of the river was covered to the distance of 200 yards with an innumerable quantity of fishes, poisoned by that deleterious liquid."—*Foreign Ex.*

We learn from the Pottsville "Journal," that on Thursday last an explosion of carbonic acid gas occurred in the mines of Messrs. Mann and Williams, by which Wm. Beadle, and James Murray were killed.

The arrangements between the Government and Mr. E. K. Collins for a line of American steamers between New York and Liverpool was completed on Monday by the exchange of contracts. The building of the steamers will now be commenced without delay.

The town of Columbus, Indiana, was destroyed by fire on the 29th ult. by fire. It was a place containing about six hundred inhabitants.

There are forty-five newspapers published in the city of Boston In this city their name is legion.

M. Cape de Feuillide, who was sent to Ireland by Count Mole to write the history of that country, has now received a similar historical mission to the United States of America.

In the year 1839, the French mercantile navy numbered 15,000 ships, but they are now reduced to 13,679, and of these 8,900 measure less than 30 tons.

A man very much intoxicated was sent to "durance vile." "Why didn't you bail him out?" asked a bystander. "Bail him out!" exclaimed the other, "you couldn't pump him out."

Some of the insurance companies in England have recently introduced a by-law, prohibiting parties insuring to have more than a gross of lucifer matches in their houses.

We are indebted to Prof. C. F. Deems of the N. C. University, for a copy of his address before the Literary Societies of Randolph, Macon College.

The first striking clock was made in Arabia, where the arithmetical figures were invented, and the first Encyclopaedia was prepared.

The U. S. schooner Scorpion, returned from a cruise. having secured the Spanish topsail schooner which she had been sent to capture.

The U. S. Propeller, Buchanan has been, wrecked on Lobas Island, All on board were saved.

"Old maids are the real gold of womankind" says a modern saw, to which an old bachelor rejoins, "and the young maids are the real diamonds"

Three thousand dollars have been raised in Pittsburg for the Washington Monument. Upwards of half this amount was taken by the working-men of the rolling-Mills, These are men of big hearts.

Pope Pius has issued a declaration against the New Irish Colleges. The reason given is that the professors are not exclusively of the Romish Church.

Twelve thousand operatives are out of employment in Manchester. They are all connected with the Cotton manufacturing.

The Schenectady Reflector of the 19th ult., was very generous in the way of credit.

Hoe's Mammoth Printing Press.

Last week we adverted to this splendid invention and mentioned that we had examined it while in operation in the Sun Building, throwing off the New York Sun at the rate of twelve thousand per hour The Press that prints the London Times, which is allowed to be the best in Europe, makes at the rate of 6000 impressions per hour, only one-half as many as that of the Sun.

The difference between this press of Messrs. Hoe and all other kinds of presses hitherto used, consists in the fact, that while upon other presses the types are locked up with "quoins," in a "chase," and laid upon a "bed" of iron, the surface of which is flat, on this the types are screwed up with a wrench on the face of a cylinder, which is both bed and chase, which revolves upon its own axle within four other small cylinders,-one fourth part the size of the larger one, these revolving also upon their own axles in an opposite direction. Each of these small cylinders receives from its supplying attendant the shee of paper with which, at every fourth revolution it meets the form of type as it comes round, and, in passing, gives the impression, and instantly throws it out into the receiver's hands, above or below, according to the relative position of the cylinder. Surrounding the large inner cylinder on which the form of type is placed and between those giving the impression, are placed the inking rollers, which spread the ink upon the face of the types as it revolves under them. The inking fountain is placed entirely underneath the machine, from which the ink is constantly drawn by means of a continually revolving small iron cylinder, forming itself a part of the fountain. From this the ink is taken up by means of small rollers with a vibrating distributor working in connection with them, and is conveyed to the surface of the large cylinder, the entire circumference of which, except that section of it occupied by the form of type, performs in its revolution the office of both distributor and feeder to the eight inking rollers, from which latter the type receive their direct supply.

This is a grand and simple invention. The feeding cylinders being placed at quadrant angles and the same principle of invention by increasing the size of the main cylinder, or for small forms by decreasing the size of the feeding cylinders, so that they would be related to the main cylinder at angles of 45°—the double number of feeding and distributing hands could be employed.

We have already mentioned that Mr. R. Hoe was now in England to secure a patent for that country He will undoubtedly meet with deserved success, because there is so little complexity in his machine, in comparison with Mr. Littles, of London, also justly famed. America and the whole literary world is much indebted to Messrs. R Hoe & Co. for other, and especially this great invention and those papers, the New-York Sun and Philadelphia Ledger, which alone have these presses in operation, have exhibited a commendable spirit of enterprise. In the course of a few weeks we shall be able to present a splendid engraving of this Press and a minute description of its different parts.

The Laborer is Worthy of his Hire.

Man does not deal with his brother as God deals with him.—He causes His sun to shine and His showers to descend with equal profusion upon all But in adjusting the rewards of labor, we do not adopt any such equitable rule. We pay largely for the labor of the head; and little for the labor of the hands. We graduate the scale of the prices not according to the utility or the actual severity of the labor, but the demand and the supply. Hence, that class of mankind, laborers, being the most numerous class, are the worst paid people in society. We cannot control the laws of Nature. Yet, this we may do, pay as liberally as we can afford for labor—common labor—the labor of the poor

The Meanest Thief.

The poor box of the Cathedral in Plum Street. Cincinnati, was robbed a short time ago of all its contents. The man who did this act would not scruple to commit any crime if he supposed he would avoid detection.

Natural Gas Springs.

In the vicinity of Fredonia, Chatauque Co., this State, there are gas springs which extend over a large section of the county, and afford a substance which supplies light for many of the inhabitants Upon examining the springs small bubbles may be seen rising to the surface, which emit a gas whose odor is very perceptible to those standing immediately over them. At Fredonia, the gas mostly rises from the bed of a small creek which passes through the village. The rock from whose fissures the gas is sent forth, is a soft slate, which emits an odor when broken, and soon crumbles on being exposed to the atmosphere. As this gas was discovered to be carbonated hydrogen, it was proposed to use it for illumination. Upon sinking a shaft on the bank to the depth of twenty two feet, it was found that there was a less quantity of gas from the creek, while the shaft furnished enough in fifteen hours to fill a gasometer of 220 cubic feet. This supplies nearly a hundred lights every evening. The streets and many of the buildings are now lighted with this natural gas. About a mile below the village of Fredonia, this gas is produced in much larger quantities The coast of Lake Erie, for two or three miles inland, furnishes the gas in numerous places. Bubbles containing it have been observed to rise on the lake at two or three rods distance from the shore.

At Portland, a few miles distant from Fredonia, there is said to be sufficient gas to illuminate a city, and at Dunkirk, the proposed termination of the Erie Railroad, the light-house, whose lantern is elevated seventy two feet above the level of the lake, is supplied entirely with this gas.

Some time since we noticed that similar gas jets were common in Herefordshire, England, but at our own doors there is the same phenomena to be seen, but upon a scale as extensively grand as our country surpasses England in extent. The time may yet come, when from a great distance our Empire City may be lighted with pure gas, if not derived from some natural reservoir, at least made near some coal mine and conducted here through pipes at so cheap a rate that it will become universal property and the mechanic and artist be able to sit down on a Saturday evening and read the Scientific American with a light as cheap as it is brilliant. It can be done.

A Good Day's Work.

Many people who have occasion to use that common and highly necessary article called an axe, would suppose that it required considerable time and mechanical skill in the manufacture of one. A workman, employed in the Axe Factory of T. & J. Varney, of Pottstown Pa., recently manufactured in one day the creditable number of 62. This is considered a remarkable good days work.

Northern Railroad Accident.

Said a wag who had a seat in the car when the concussion took place, upon viewing the injury it had sustained—"There, that was all my fault!" "How so?" inquired a by-stander. "I did'nt get out as I should have done, was the reply. 'What had that to do with it?" asked the bystander seriously. "Why sir, don't you see," said the other, "that when Mr. Webster got in, I ought to have got out. No train of cars will sustain two such mighty intellects as ours at one and the same time."—*Portsmouth Gaz.*

A Silver Pitcher Presented to Mr. Conductor Parker.

The passengers in the Springfield train, on the 28th of October, in commemoration of the prudence and firmness displayed by James Parker, Esq., conductor of the train, by whom a collision was avoided, have had manufactured for him by Messrs. Palmer, & Bachelder, a beautiful silver pitcher, bearing the following inscription:—

'Presented to James Parker, by the passengers of the Springfield and Worcester railroad train of cars, 20th October, 1847, for his resolute and decisive conduct on that occasion.'

The Cambridge (Ohio,) Revielle says that the number of hogs fattened this year in the Western States, will exceed that of last perhaps one fifth. The market will open at $3 per hundred for the best pork.

Aeronautics.

From Galignani's Messenger we learn that Mr. Green, the English aeronaut, made his 174th ascent on Oct. 24th, at Brussels, taking up with him an officer of the English navy, and M. Bischoffsheim, son of the banker at Amsterdam After floating in the air for about two hours, and having attained the height of 2,500 yards, Mr. Green and his companions alighted safely on the plain outside of the gates of Lierre On the appearance of the balloon the commandant of the station saluted it by hoisting the National flag, which the aeronauts answered by waving the English and Belgian colors, which they had with them. On the same day a M. Godard made an ascent from Lille. But his aerostatic apparatus was too economical, and as it proved dangerous, for his balloon was of paper, and his car consisted of a deel plank In the ascent the balloon had several fissures made in it, and the gas escaped in large columes. After rising to about forty yards it sank again, and was caught by a chimney. M. Godard was dragged along the roof of the house, and struck on the head by bricks forced from the chimney. At length, however, he was able to make his escape through a sky-light, and got down to terra firma, with only a few slight bruises Three aeronautic ascents took place on the 17th at Bordeaux—two by M. Meyer, and M. Bechmann, and 3d by Madame Masse. The two gentlemen descended without accident near the town; but the other balloon came down on the roof of the house occupied by M. Ezpeleta. By some chance the cords which connected the balloon to the car got cut across, dividing the apparatus in two parts. Fortunately the network of the car, caught in the corner of the entablature of the house, and remained there suspended. The slightest movement would have precipitated the whole to the ground, and the utmost alarm was felt for Madame Masses safety. Ladders were brought but they proved to be too short, and she was obliged to remain in her very unenviable position for nearly ten minutes. At last longer ladders were procured, and she descended in safety, amidst the cheers of the spectators

Bad Books.

The English correspondant of the New England Puritan, in speaking of the accumulated horrors of the Praslin tragedy, says:

No man ever became so wicked as he was suddenly. It was a gradual process by which his heart was petrified. What were those infamous "influences" that came over his mind and perverted his principles? We are inclined to believe that the popular literature of France—dealing so much in violent contrasts and tragical horrors—so fatally pervaded by infidelity, and so grossly tainted by impurity, had much to do in effecting the disorder of the moral feelings, this complete annihilation of all honor and virtue."

"Yet the popular literature of France," says the American Messenger, "so fatally pervaded by infidelity, and so grossly tainted by impurity, is reproduced in America, by men of whom we had a right to hope better things. Will they not voluntarily abandon this branch of a nefarious traffic?"

Naval.

At a late examination of candidates for admission into the Engineer corps, the Board being composed of the Engineer-in-chief, Charles H Heswell and Chief Engineers W. P. Williamson and William Sewell, Jr. the following named persons were reported as qualified for warrants

As a 2d Assistant, M. Quin, of Norfolk Virginia.

As 3rd Assistants, Wm Kemble Hall of New-York. G. Wright Geddes of Baltimore; and Richard E Potts of Washington.

Ancestry.

Sir Thomas Overbury said of a man who boasted of his ancestry that he was like a potato—"The best thing belonging to him was under ground."

Try It.

The best cure for a sore throat is to get married to a pretty girl, and sleep every night with her sleeve, enveloping an arm, round your neck. instead of a stocking.

Laying it on Thick.

A lady writing for the Louisville Courier about the lectures of the Rev. Mr. Maffit says:—"in after years, when the lurid flame of criticism, prejudice and malice, shall like a school boy's rocket, blazing meteor, like, for a moment, in serpentine brilliancy, expire, leaving but their blackened fronts, shall the name of John N Maffit, bathed in the sunlight of immortality, phenix like, rise from the smouldering ashes of departed glory, spreading her ruby wings heavenward, cleave the blue dome, and lay her trophies at the feet of that Angel of Eloquence, who rising from her celestial throne, shall inscribe his autograph upon the brightest gems that deck her coronal of glory."

Tarts and Pride.

A lady ——, whose friends had arrived unexpectedly, got up an impromptu dinner, party, and was compelled to send to the nearest pastry cook's for some large tarts. All went on well enough, until the lady unluckily wishing to show off, by pretending not to know what was at her own table, pointed to the dish with an air of great dignity, and inquired, "John, what are these?" Whereas, John, in the innocency of his heart, looking at the tarts in a commercial rather than a culinary point of view, briskly replied, "Fourpence a piece, ma'am."

The good fortune of Thin Sides.

Halifax papers of the 13th inst. say that fourteen convicts arrived there a few days before from Canada under an escort of the 93d Highlanders. They were confined in the strong room at the north east corner of the citadel, and were to be transported to Bermuda. One evening they wrenched a bar of iron from the window, and six of the thinnest made their escape by means of their blankets. The others were too fat to squeeze through, (the bars being barely nine inches,) and very reluctantly were obliged to remain behind.

Oats Wanted.

A day or two since an animal having the appearance of having been a horse, but which then looked like a skeleton covered with a collapsed hide, was observed by a wag of a boy who pasted a placard upon its side, on which was daubed in large letters—"Wanted, a peck of oats; enquire within."

Whiskey.

"What do you think of whiskey, Dr. Johnson?" hiccupped Boswell, after emptying a sixth tumbler of toddy 'Sir," said the doctor, it penetrates my very soul like the small still voice of conscience; and doubtless the worm of the still is the worm that never dies."

An Exception.

A gentleman boasted that he had drank, two, or three bottles of wine every day for fifty years and that he was as hale and hearty as ever. "Pray," remarked a by-stander, "*where are your boon companions*" "Ah," he quickly replied, "that's another affair If the truth may be told, *I have buried three entire generations of them.*

'If ever you marry,' said my uncle, 'let it be a woman who has judgment enough to superintend the work, of her house, taste enough to dress herself; pride enough to wash herself before breakfast: and sense enough to hold her tongue when she has nothing to say.'

A singing master, while teaching his pupils, was visited by his brother of the tuneful art. The visitor observing that the chorister pitched the tune vocally, said;

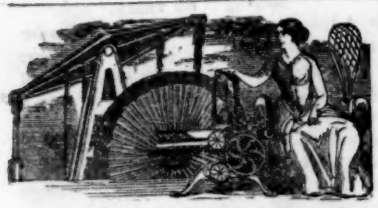
'Sir, Do you use a pipe?'

'No. sir,' replied Semibreve, with admirable gravity, "I chew."

"My dear Polly, I am surprised at your taste of wearing another woman's hair on your head," said a man to his wife. "My dear Joe, I am equally astonished that you presist in wearing another sheep's wool on your back,"

A dentist, who, having labored in vain to extract a decayed tooth from a lady's mouth, gave up the task, with this felicitous apology:—

"The fact is, Madam, it is impossible for anything bad to come from your mouth."



New Inventions.

Adjustable Spring Curved Plane.

Mr. William A. Cole, an excellent mechanic, of Brooklyn, N. Y., has invented a most beautiful spring curved plane. The bottom is a sheet of steel, smooth as glass and screwed to the beech stock on both sides of the knife eye—the screws are countersunk on the face. The steel sheet is the regulator of the curve, as the stock is made more circular than the sheet, it being fastened by set screws to the end of the beech stock by means of a strip of iron with a slot in it working on the screws. By this means the steel plate regulates the dip of the curve and accomplishes by one plane, what would take as many different planes to do, viz. adjusting itself to any degree in an angle of 90°. The planes are now made at the corner of York and Bridge streets, Brooklyn, and the inventor we believe is desirous to get some person to engage with him in the business. The planes are made prices from $3 to $5. A sample may be seen at this office.

Iron Ship Ribs.

Mr. Richard F. Loper, of Philadelphia, has made an important improvement in ship building, whereby he uses hollow iron ribs, instead of timber, or solid iron ones and binds them together by wooden planking, thereby combining strengh with buoyancy and lightness. The ribs being hollow, he uses them as canals to lubricate the bolts and fastenings by pouring oil through the hollow ribs, thereby preventing the rotting of planks and oxidisation of the metal.

Improved method for ascending and descending Incline Planes.

Mr. G. E. Sellers, of Cincinnati, Ohio, has invented a method of ascending and descending inclines by having a central rail and driving wheel to gripe the rail connected with a spring to give them the required adhesion on the rail. He also connects the driving wheels by toggle joint levers whereby the train is made to act upon the griping wheels, and yet leaves the locomotive free in a measure without any strain, and in the event of the engine breaking the connection with the train, there are arms on each side that are caught by chain or jointed rods to arrest the progress forwards or backwards, of the train in a descent or ascent.

Bullet Moulding.

Mr G. W. Camphell, of Belleville, N. J., has invented a new method of making bullets, different, and said to be superior to that of Mr. Bouton, whose machines are now in very successful operation in Troy and Washington. His invention consists in having an endless chain of section moulds passing over horizontal prisms. The section moulds receive the metal at one end of the chain of cylinders over which they revolve and discharge their contents at the other as they pass around.

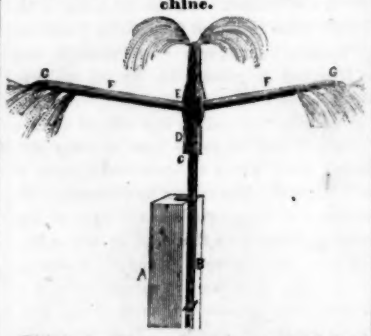
Telegraph Towers.

Two iron towers have been constructed at Starr's factory, Camden, N. J., on a plan invented by E. S. Townsend, intended for the purpose of sustaining the wires across the North River, near the Palisades. Their height is 200 feet, four feet at the base tapering to one foot at the top, and made in the most beautiful manner of flat bar iron winding round in each direction, forming a column of spiral lattice work, combining lightness, durability and strength of no ordinary character.

Smoke Prevented.

The Pittsburg Gazette says: it gives us pleasure to state that Messrs. Blackstock and Co. have made a trial of the smoke preventive apparatus, in their Cotton Factory in Allegany city. The experiment has proved successful, and will save in this one factory twenty-five bushels of coal per day. While the chimneys of the neighboring factories were vomiting forth clouds of black smoke that darkened the atmosphere of one of the finest Indian Summer days we have seen, the Smoke Preventive in the cotton factory we have named consumed all the parts of smoke that dropped like rain from other points around us. The plan adopted is that of Mr. Williams of England. It costs but a trifle, and will save we are informed, in this one establishment 25 bushels of coal per day—enough to save its expense twenty times in one season.

Dutton's Patent Ice Accumulating Machine.



This is a very speedy and sure method of accumulating ice. It is a well known fact that ice will accumulate three times as fast from a shower of spray being thrown out in the cold air, as it will on lakes and streams. If the temperature of the air is below the freezing point, the water freezes as it falls in windy weather which greatly prevents streams and lakes from freezing, rather facilitate the freezing by this plan. The most suitable place for placing the jet, is a grass plot with some straw strewed over it. The blocks of ice may be formed two or three feet square as desired by staking up boards forming temporary vats the width and depth required, leaving open joints to allow the surplus water, if any, to run off. Ice obtained in this way is clear and pure if the water be clean that is used to make it, being more solid, as has been proved by experiments, and purer than river ice. Plentiful supplies of ice may be obtained by this method, during weather that is too warm to allow ice to form on streams and if it should freeze four inches thick on a stream and a thaw should come, the whole would soon disappear while by this plan there can be frozen in the same temperature a block 12 inches thick and secured in an ice house with little trouble and at a price of 2 dollars for a single jet under a head of 30 feet which will cover an area of 60 feet in diameter.

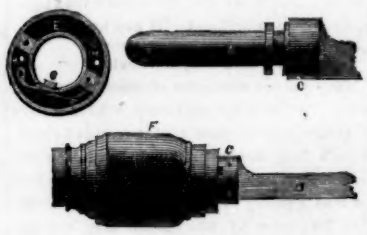
Operation.—A, is an upright post about 11 feet high, supporting a pipe B, about half an inch of calibre, connected with water pipes leading from the fountain head. D, is a swivel joint, coupling the pipe B with E, the hollow revolving cylinder pipe which has arms F F, for throwing water over the ground floor, or apartment where the machine is placed. These arms discharge the water through openings G G, which turns the cylinder E, on the principle of the reaction water wheel, by thus discharging the water from the curve of the arms. Two jets are also thrown out near the top of the upright pipe of the revolving cylinder making blocks of ice in the inside of the curve G G.

It is the invention of John Dutton, of Aston, Delaware Co., Pennsylvania, who has letters patent for his invention, and who offers rights for sale at reasonable prices. Mr. Hills, Water street, this city, is agent.

Lilliputian Locomotive Engine.

Mr. James Samuel, a native of Glasgow, Engineer of the Eastern Counties line of railroad, England, has lately invented a most wonderful engine which for economy is a great acquisition to the Railway companies for many purposes. Mr. Samuel had long viewed with an unquiet eye, the great expense incurred to use large locomotives for the purpose of surveying the line of which he was engineer. In the first place he got a small engine made by a Mr. Adams, but it went only about 15 miles an hour, which would not satisfy him. Not discouraged, he prepared drawings and constructed another weighing only half a which in an emergency might be lifted off the line. He made every thing as light as possible, using wooden wheels and the axles only six feet apart. It was found to be too short for steadiness. A new boiler was then put in, new iron wheels and larger axles, and although many predicted that "although it was very beautiful and workmanlike it would not go, and that it was so light it would fly off the rails," yet it has gone and accomplished a journey from London to Cambridge, 57½ miles, in one hour and three quarters, and attained to a speed at the rate of 43 miles an hour part of the trip. The entire length of frame, engine and carriage is 12 feet 6 inches, on four wheels 3 feet 8 inches diameter, the leading and driving wheels, the same size, and the width from centre to centre nine feet, the wheels being outside of all. The frame is divided in the middle by a bulk head, the foremost containing the boiler and machinery, the latter the seats for the passengers. The boiler is a vertical one of 34 tubes 1 1-4 inches diameter, the height 3 feet 6 inches and diameter 2 feet, constructed on the American principle. The flue beneath is one foot from the rails, level with the floor and the entire height of flue, boiler and chimney is 7 feet 6 inches. The working parts of the machinery are all composed of steel, enclosed in boxes on the sides of the compartment, consisting of two inside cylinders three inches in diameter, with a 6 inch stroke, crank axle, link motion, with the usual reversing gear.—The water tank is in the cross seat against the division board of the two compartments and holds a supply for a run of 20 miles. Coal is used in place of coke for fuel, the furnace being so small. The part for passengers resembles an Irish car and will conveniently hold seven as the seats are crosswise. The weight of the whole engine, which is suspended on spiral bearing springs when in working order, exclusive of passengers is 22 cwt. and it is able to travel at the rate of 40 miles an hour, but it is not intended to drive her at the rate of this speed on ordinary occasions. The boiler has borne with ease the pressure of 200 lbs. to the square inch, and considering its dwarfish size and weight, it threatens to be a real poney locomotive express.

Improved Hub and Axle.



This is an engraving of the Improved Hub noticed in our last number, as invented by Mr. A. E. Lyman, Williamsburg, Mass.

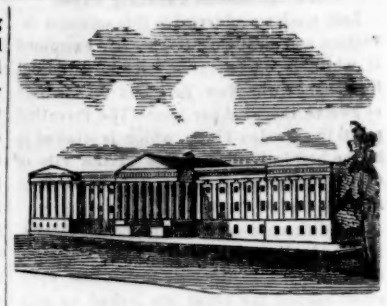
Description.—The lower figure is a representation of the hub and axle connected together. F, is the hub. B, the axle. E, a screw. C, a coupling box of which the round figure to the left is a sectional view. D, is a bolt for fastening the coupling box to the hub.

Axle.—B, is the part of the axle inside of the hubs. A, that part which slides in the hub. C, is a rim close to a groove on the axle, said groove being the mode by which the axle is attached to the hub or wheel by a screw in the other figure.

Coupling Box or Spring-Fastener.—G, is a spring which slips in the groove described in the axle and held in its place by F, a back spring H H, are bolt holes. E, represents the hollow or interior of the box.

Operation.—Let the axle be slipped into the hub and the spring coupling box bolted or screwed on the inside face of the hub, when the spring G, will play in the groove of the axle and keep the wheel and axle united by being braced against the rim of the groove.—By a screw on the outside of the coupling box, the axle and hub, just by a turn of said screw, can be geared and ungeared in a momoment for lubricating, &c. The outside of the hub is covered so that no dirt can get in the bush and there is as little friction by the spring G, as by the common key, although the key, or if it be a nut, is fixed in a different manner.

Mr. Lyman has applied for a patent.



LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending Nov 27, 1847.

To Richard H. Hobbs, of Hartford, Conn., for improvement in Heating Water for Bathing. Patented Nov. 27, 1847.

To George H. Dodge, of Attleboro, Mass., for improvement in Spinning Machinery.—Patented in Scotland, Sept. 27, 1847, in America Nov. 27, 1847.

To James Nield, of Taunton, Mass., for improvement in Looms for Weaving. Patented Nov. 27, 1847.

DESIGN.

To Samuel W. Gibbs, of Albany, N. Y. (assigned to Augustus Quackenboss, of Albany, N. Y. for Design for Stoves. Patented Nov. 27, 1847.

INVENTOR'S CLAIMS.

Manufacture of Iron.

By Alexander Dickerson, Newark, N. J. improvement in apparatus for the manufacture of malleable iron. Patented 13 March, 1847. Re-issued 21st August, 1847. Claim.—What I claim as my invention, and desire to secure by Letters Patent, is: First, The method of manufacturing malleable or wrought iron direct from the ore, by means of a furnace, combining a chamber containing the charge of ore and fuel, with a closed forged fire below the same and communicating therewith, containing a continuation of the charge and the loup of wrought iron formed therein; said forge fire being provided with a large door for the introduction of a portion of the charge for shutting in and confining the charge, excluding the air therefrom during the process, removing the loup when formed, and clearing out the fire preparatory to another charge. Secondly, The use of moveable bars or slides in combination with the said closed forge fire and chamber, inserted and passing through the charge, to serve as a temporary grating to sustain the upper portion of the charge, or a new charge, whilst the lower portion is burning down and the loup is taken out.

Improvement in Baskets.

By Abram Van Riper, Washington township county of Bergen, N. J. Improvement in Baskets. Patented August 21st 1847. Claim—What I claim as my invention. And desire to secure by Letters Patent, is the application of two hoops fastened together by nails or rivets, so as to enclose the standards which formed the arched bottom of the baskets and prevent them from yielding or falling down by the pressure of fruit, &c., which the basket may contain.

Mustard Mills.

By Charles Walker, of Brooklyn, N. Y.—Improvement in Mills for Grinding Mustard, &c. Patented August 28, 1847. Claim—What I claim as my invention and desire to secure by letters patent, is the peculiar combination of the segments with one another to form a ring of wood so that the ends of their fibres shall make the wearing surface for the purpose herein described. Also the combination of the moveable partition and block with the bales and the ring in manner and for the purpose set forth.

Curry Combs.

By John Jones, of Bristol, Conn. Improvement in Curry Combs. Patented August 28, 1847. Claim—I do not claim as my invention the curry comb, but what I claim and desire to secure by letters patent, is the combination of the cleaner, as herein described, or any other substantially the same with the curry comb, substantially in the manner and for the purpose herein set forth.

NEW YORK, DECEMBER 4, 1847.

Inventors' Institutes.

Two articles of no mean length have lately appeared in the columns of the Artisan, bearing the broad signature of Clinton Rosevelt. The purpose of those articles is ostensibly to call the attention of inventors and our people generally, to the importance and necessity of Congress passing laws to recognise inventions as the property forever of inventors, in the same manner as real estate is recognised and protected by common law. The articles referred to, should receive the careful attention of all inventors. We have been requested to publish them, but they are too long for our columns, and beside there are some allusions to acts, or intended acts of men in authority, which we could sincerely desire had been referred to in a more straightforward and less ambiguous manner. The allusions we speak of refer to a "confidential patent agent" of the Hon. the Commissioner of Patents. In regard to men in authority, we are always guided in *our* opinion by an expression of the great William Pitt: "It is one thing to be a novice out of power, and another thing to be one in power." The Commissioner of Patents by recommending the passage of a law suggested by Senator Pratt, has shown himself friendly to inventors. It is our opinion that more money is lost by re-inventions than by any other evil, (if it can be called an evil,) with which men of inventive minds are afflicted. All this would be prevented, if drawings and specifications of all patented inventions were registered in the most important cities and towns in our different States.

We believe there is much selfish sympathy manifested by some for poor inventors. The Inventors' Institute which was organized in this city had at one time the appearance of being all that it promised to be, viz. "an association for encouraging and protecting the rights of the Inventors of new and useful improvements." It has not, however, so far as we are aware, realized the least hope of benefit to any inventor, and we cannot flatter (as some papers have done) where we should condemn. The Inventors' Institute was a grand scheme. Their Constitution was printed and all was open and above board, but although it is but a short time since it was organized, it is already in a dilapidated state and mouldering to decay. We are more sorry than indignant at the failure of an institution which at one time promised to be successful and numbered among its members some of the noblest men in the land.

When the Scientific Mechanic commenced, a proposition was made through its columns, for a proposed Inventors' Institute, the title to membership being 12½ cents paid to the Editor of that paper. It would be well to publish the progress of said Institute—its officers, expenditures, &c, and show "the way the money goes" Twelve and a half cents is not much to be sure, but if the proposition is not like that of the *Kidd* scheme, be the money paid in much or little, that paper ought to report the state of the finances.

The Artisan of the 20th ult. proposes, undoubtedly for the benefit of Inventors, a new scheme in the shape of an Inventors' Fund, and the privilege of becoming a stockholder is coupled with becoming a subscriber to that paper. It surely cannot be possible that the Artisan contemplates anything like speculating upon the sympathies of inventors, or the friends of inventors; yet we must say that we look upon the scheme with distrust. There is nothing tangible in the proposition, upon which we can place the least reliance, and it is our duty to raise the warning voice against every scheme purporting to be for the benefit of inventors, unless such scheme bears something feasible, honest and open on the face of it. We use no harsh terms, but duty compels us to speak frankly upon this subject, in the hope that such an explanation will be given of the project as will satisfy the public and dispel all our own doubts. We have always been, and always will be, the advocate of an extended legal protection to inventors, but we never have been, and never shall be, the panegyrist of any scheme unless it be one for the interest of inventors, unselfish and unstained with the plunder of their hard-earned cash.

English and American Railways.

The following excellent article on American and English Railway Regulations should be carefully read by every person in the United States. It is written in that kind of spirit which ought to characterize the whole American Press "What is good in others let us not despise; what is wrong in ourselves let us throw away." This article is from the N. Y Sun, and is as follows:—

"While we claim for Brother Jonathan an entirely superior spirit of go-ahead-ativeness compared with his old father John Bull, we must confess that, in many respects, the latter has more regard for the rights and comforts of his children than Jonathan. His railroads are an example. They are to be sure, not built over swamps, through woods and everywhere as with us, in order to accommodate every body, but those which are built are substantial, prompt in keeping time and conducted by servants who make it their *business* to serve the public. Whatever monopoly Capitalists may enjoy in the buildings and dividends, they cannot defy the public nor the government, and when complained of shake their *charters* at the complainant, and laugh him to derision.—When the principal English lines were opened the directors attempted, like many in this country, to play the game "do as *we* please," grading their charges and hours of starting, &c. to suit their own pockets and changing the same as often and as they chose. The public complained of the nuisance and Parliament set about correcting the evil. The most important regulation was that every line should furnish at certain times, each day, say for instance on the London and Birmingham road, a third class of cars at one forenoon and one afternoon trip for the convenience of the poor. These are called "Government cars," and the price per mile is regulated by the government at one penny. Rain or shine, be the crowd great or small the cars must be regularly attached. If there is but a single passenger, he can claim at the proper hour a car, which the haughtiest Director dare not refuse, unless he wishes to incur a heavy fine, a suit for damages by the individual claming the car, and perhaps forfeiture of charter. Such is the absolute check placed by Government upon those corporations created for the public benefit.—At first the directors were left to select the hours for the third class trains, and attached them either early in the morning or late in the evening to the detriment of the poorer class of travellers, but Government soon corrected this operation and forced them to adopt seasonable hours. They also commenced with open uncovered cars, this too was directly remedied, until now the English railroads are in fair subjection to the public. As regards transit of mails, they are carried free, accompanied by Post Office guards, this being one of the stipulations in chartering the roads, and a just one too. If Government grants peculiar privileges to corporate bodies it is entitled to some return. Under this arrangement an English mail train might as well resign its charter as to refuse to carry, or leave a mail behind unless warranted by the Post Office. When shall we have some such restrictions in this country upon our overbearing, public defying railway corporations?—Will not Congress and the State Legislatures look to it.

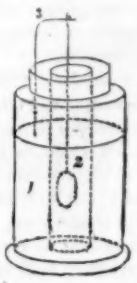
The New Planet.

Sir John Herschell, at Mr. Bishop's request, has called the planet last discovered by the name of Flora. The emblem is to be the "Rose of England," which is put under a very neat and convenient form of writing. The symbol adopted for the planet Iris is a semicircle representing the rainbow. with an interior star and a base line for the horizon.—This device is due to Prof. Schumaker.

Electro-Gilding.

PART II.

There is a great necessity of economising the valuable solutions of gold and silver. To accomplish this end certain modifications in apparatus are absolutely imperative. The porous cell which we have described in electrotyping, as containing the zinc and diluted sulphuric acid, and was surrounded with the copper cell and other negative element, in the present process of electro-gilding contains the cyanide solution (described in the last article,) and it is surrounded with a zinc cell. The following cut will explain the arrangement



SINGLE CELL FOR PLATING OR GILDING.

The outer cell 1, is of zinc. The inner cell 2, is of pourous earthenware containing the solution of silver or gold. The outer cell contains weak sulphuric acid and the medal, or whatever it may be that is to be plated is connected with the zinc, or positive element by a binding screw and copper wire 3, from which is suspended the article to be operated on by a simple bend of the wire. All of this apparatus should be contained in a porcelain cell, cylinder inside of cylinder.

The philosophy of the action of this arrangement must be carefully attended to, from the ease with which the salts of silver or gold are decomposed, as there is a great chance of releasing hydrogen and spoiling the experiment, and to prevent such costly destruction all care must be exercised.

If the silver solution is weak in proportion to the energy of action between the zinc and acid water, the electricity set free will be more than sufficient to release pure metal, and therefore hydrogen will evolve and a deposit of oxide the result. The water therefore which excites the zinc should contain a *very* little acid, and a few drops more or less, according to the strength of the cyanide solution the strength of which should be kept up by a fresh supply of the oxide of silver.

OPERATION OF PLATING BY THE SINGLE CELL.

Having charged the zinc cell with weak acid water, and the pourous cell 3, with the silver solution, let it remain for a few minutes, in order that the pourous cell may be moistened through and the action commence as soon as the circuit is completed. Then attach the thin pliable wire to which the medal or mould is fastened and place it in contact with 3, the positive wire, and complete the circuit by immersing the medal in the silver solution, when a deposition will instantly take place and present a dead whitish appearance. Should the deposition be streaked with black perpendicular lines, it is a sign that the hydrogen is developed, which must be prevented by weakening the acid water, or taking out some of it, and also washing the mould and removing the oxide entirely. Careful attention must be paid to the commencement of the process and it will take some practice to hit the right degree of action beside very careful watching. If all goes on right, in half an hour the medal or mould will be beautifully coated over with dead silver; it should then be washed and dried in blotting paper. Or if it is wanted to be burnished the leather and plate brush must be used. The preparation of washing is by some called *pickling*, and the medals should be heated in a small dry oven at 150° at least. Mr. Bain, of Edinburg, has invented an ingenious electrotyping instrument called the Voltaic Governor. It is a clock work arrangement, whereby as the electric action diminishes, a keeper from an electro-magnet through which the current passes, is moved and the plates, which are placed only at a certain depth, sink further, and more electricity is generated. Thickness in plating is all owing to the length of time the medal is subjected to depository action.

Trade on the Upper Mississippi.

Forty-one steamboats left Galena, last year for this far away region, ladened with merchandise. The exports of lumber from it were valued at the mills at $300,500. This year it is calculated that the ingoing and outcoming trade will equal one and a half millions. The lumber mills are on the Wisconsin, the Black the Chippewa and the St. Croix rivers. It is on the last that the Boston company is located, at the head of which is Mr. Rantoul. Its secretary is Mr. Cheever formerly of N. York. Gen. Cushing is a heavy stockholder in it. They have six mills, running 10 saws, and send out lumber annually to the amount of $142,500. On the Wisconsin, are 33 mills, running 59 saws. On the other two tributaries above named are 12 mills running 16 saws. All this industry is in the new teritory of Minesotab.

Postage in the British Provinces.

We mentioned, some weeks ago, that the British Government had consented that the provinces in North America should arrange the postage as they might agree among themselves For this purpose, delegates from Canada, Nova Scotia and New Brunswick have recently assembled in Montreal, and have agreed that a rate of three pence, Halifax currency, per half ounce, be the charge for letters sent a distance of not more than three hundred miles, and beyond that distance sixpence. Sixpence Halifax money is equal to ten cents.

Charleston Artesian Wells.

Mr. A. H. Brisbane, Engineer, who is conducting the boring of the Artesian Well in Charleston, S. C., has reported to the magistrates of that city that he has reached the depth of two hundred and eighty two feet five inches, and that he has experienced much delay from accidents in endeavoring to establish the use of the chisel instead of the drill. He says that "it would appear impolitic to attempt again this plan of operation, and we shall be found to confine ourselves to the more certain method of the Drill. I find by referring to the progress at Fort Sumpter, where this course has been pursued exclusively, that the minimum operation per month has been 20 feet, and that per day 8 inches.—As their strata resembles ours, this result will furnish data for the daily expense. It must not be lost sight of, however, that unforseen accidents will occur, and like the broken chisel now in the well, without the possibility of avoiding them, so that under all circumstances the result must be uncertain, both as to time and expense."

Lead Mine.

A Lead Mine has been discovered on the land of Christian Shirk, Lancaster county, Pa. which bids fair to become very valuable.

Scientific American---Bound Volumes.

The second volume of the Scientific American, bound in a superb manner, containing 416 pages choice reading matter, a list of all the patents granted at the United States Patent Office during the year, and illustrated with over 300 beautiful descriptive engravings of new and improved machines, for sale at this office—Price $2,75. The volume may also be had in sheets, in suitable form for mailing—at $2.

Volcanic Lake.

Amatitlan is a place which is beginning to be known in the markets of Europe for the production of cochineal :—" Amatitlan is six leagues distant from the capital, lying NNW. in the direct road to Iztapa, the port of Guatemala, on the Pacific, from which it is twenty-three leagues distant, the road, as in all parts of central America, being merely a track cleared in the woods by cutting down the trees and bushes, but without any attempt being made at levelling or draining, or even removing the stones or other natural impediments. The descent from Guatemala to the top of the valley of Amatitlan is gradual, but continued; but before entering the valley it is necessary to descend a steep hill, as it is on all sides surrounded by rugged and precipitous mountains, with the exception of a narrow outlet into which a river escapes. Nearly half of the entire valley, and what is most remarkable, the highest part is occupied by a lake three leagues and a half long, with an average breadth of about half a league. The basin of the lake cannot in many parts be sounded; and I make little doubt that the whole valley of Amatitlan, together with the lake, has at some period been the site of an immense volcano, which has been blown to pieces by an extraordinary convulsion. All the strata forming the sides of the surrounding mountains seem cut off perpendicularly, and have exactly the appearance of the sides of the craters in many volcanoes I have examined in America. Immense quantities of pumice stone may generally be found floating in some parts of the lake, and lying on its shores; in one place it forms a considerable piece of land, which shakes and quivers upon any person stepping upon it. being, in fact a floating promontory formed by an immense collection of this formation, which is much lighter than water, as is readily proved by throwing into water any of the stones lying upon the banks, which. so far from sinking, float like a cork. Two streams of water enter the lake, and a considerable river certainly much larger than both united, runs out of it; the temperature of the latter being many degrees hotter than the former. Around the lake in all parts, and the borders of the river, springs of boiling water gush out, many of them emitting large volumes of steam; and in the lake I make no doubt there must be many more, for though the river is equal to one of the second-rate English streams its temperature and that of the lake, is many degress above that of the atmosphere at all times: so that to the bather it has the effect of a tepid bath, and early in the morning when the air is coolest, it feels quite hot. The temperature of the lake was, I found, 83° Fahrenheit, while at the same time the average temperature of the air for twenty-four hours was 79 degrees, so that the temperature of this immense body of water was raised 14 degrees by volcanic heat. On some of the mountains on the north side of the lake, I discovered several crevices which emitted large volumes of steam of so high a temperature that in a moment it burnt my hand, though, singular to relate, there was a number of mosses and some water plants growing in the openings, which did not seem to suffer from a heat equal to boiling water * * The soil is composed of volcanic matter, in many parts mixed with entire cinders, large blocks of lava, pumice and toad stones. The wells in the town are all of brackish water, having a mixture of alumn and salt; but those in most parts of the suburbs and neighborhood are all of hot water, free from any considerable mixture of minerals. * * The hot water is always perfectly free and clear from all minerals, apparently rising from a great depth, while the springs of cold water appear to be formed in the upper strata, and are all impregnated with alum and salt; there is however, a small space, forming a part of the town, where cold water can be met with, the wells in all other parts being hot in different degrees and those in the lowest situation always boiling. It would appear that the volcanic fires are still active at a certain depth along the whole extent of the valley, as hot water is in all places met with on reaching a yard or two below the bed of the river and lake, and in most parts much sooner, appearing as if th water were forced up by the steam from below. * * In all parts, except where vegetation is checked by the presence of alumn, which is destructive to the growth of most plants, the cactus, on which the cochineal insect feeds, the sugar-cane, and most other vegetables thrive most luxuriantly, the high temperature at which the soil is always kept, and the gases emitted, having evidently a most powerful effect in promoting vegetation. —*G. G. Dunlap Esq.*

Wheeling Cotton Mills.

A new cotton factory has recently been erected in Wheeling, Virginia, and from the excellent arrangements, moral and sanitory, adopted to secure the comfort and happiness of the operatives, we gladly recommend the scheme to the attention of those engaged in manufacturing occupations.

This factory runs about 1700 spindles, a large number of carding and other machines, and has sixty looms now in order, to which the proprietors are going to add more. It stands alone, in an airy position, is well ventilated in summer and in winter kept at an perfectly equable temperature, being heated by steam, in iron pipes, to any required dedegree. The machinery is all new and of the best make, and the whole building is lighted with gas. On every flat is a water pipe and hose to be used in case of fire, while every room has a washstand for the use of the persons employed, and nothing has been overlooked that can contribute to the comfort and cleanliness of the hands. The rules and regulations are admirably adapted to the wants of both employer and employed. The proprietors are highly respectable, and they have secured the services of Mr. Hugh Bone, late of Ellicott's Mills, Maryland, a gentleman whom we have long known as singularly eminent for practical knowledge, unassuming worth and kindness of heart. Mr. B. with that philanthropy characteristic of the true gentleman, has commenced a Sabbath School on the premises, where not only all employed about the mills, but any other who may desire, can weekly receive religious instruction. To this novel feature in manufacturing establishments among us, says the Western Virginian, as well as to the general business of the establishment, we heartily wish every success as to a blessing in every sense of the word, and not like as in some factories that we could name. Numerous hands of both sexes are employed, and more will be needed, who receive good wages in cash every Saturday afternoon, and every attention paid to their moral and religious instruction.

Queer Silvershop.

In the stomach of a huge shark lately killed at the mouth of the Grand Bayou was found a silver teaspoon of antique pattern, tolerably massive, with the armorial bearing of two houses engraved on the handle, represented by two shields quartered on a common field. The crest is a helmet which the visor down, (a knight's device); the dexter shield has a falcon proper, surmounted with the rising sun, semi-lune; the sinister shield bears two mullet gules, with a single fleur delys, minor found. A star, or as it is termed in heraldry, a mullet, surmounting an eagle proper. crowns the crest.

An Extra Horn.

There has been some few days, past, exhibited on the table of the Exchange Reading Room, an ox horn, brought from Rio Janeiro, in the U. S. Frigate Columbia, which. in point of size, has perhaps never been exceeded. It is four feet nine inches long, and must have been close up to the head of the animal, at least 16 inches in circumference. The ox from which it was taken was 9 years old, and weighed 12 cwt. It has been beautifully polished.

Advice Gratis.

One of our exchanges says :—" Be content as long as your mouth is full and body covered —remember the poor—kiss the pretty girls—don't rob your neighbor's hen roost—never pick an editor's pocket, nor entertain an idea that he is going to treat—kick dull care to the deuce—black your own boots—sew on your own buttons, and be sure to take a paper and pay for it." Good practical advice.

Effects of Opium.

We cannot withhold the record of an extraordinary case of delusion, occcsioned by an opiate, in the person of a gentleman with whom we have the pleasure of being most intimately acquainted. To relieve a laryngeal cough with which he was troubled, he sucked, one night, prior to going to bed, a few morphia lozenges, he could not exactly say how many. He remembered to have retired. and undressed himself as usual, and to have attended to all the particulars of the toilet, in which he was especially neat; for, though a plain man, he had all the vanity of a handsome one. He placed his night-lamp on the mantel, and got into bed. He lay looking as was his wont, at the taper, until it became slowly surrounded by a halo of thinnest mist, which gradually filled the whole room. At the same time he felt himself growing by degrees lighter, until at last he fancied himself to float upon the very wings of ether. He could move in any direction, and variously tried the action of his limbs, but every effort gave him a further and more fertile idea of his imponderosity. Shortly, the notion possessed him his head was off. Though not painful in itself, the idea led to others of a most distressing kind. He wondered what he should do without it, what people would say and do to him, and whether his life were not at a risk with the change. Strangest of all, though perfectly intelligent of surrounding objects. seeing the various articles in his room—hearing the church clock strike—moving his limbs to and fro, and thinking of all these things—it never occurred to him to feel if his head was off, or to reflect that, without a head, he should be in no wise sensible of its loss. The single delirium seemed to be imperative of every faculty and feeling than could lead to its correction. All this while the man was perfectly awake to every thing save his delusion—it spell-bound him. After lasting for upwards of two hours, during which time he carefully numbered the chimes, sleep hid the terror from his eyes, and it was at his breakfast table the next morning that we heard him relate this strange incident.—*Medical Times.*

We once experienced similar fancies from the same cause, and would advise people to be very careful in using opium in any form, as we are confident it operates differently on different constitutions, and that the quantity that one person may use without serious effect may prove destructive to another.—M.

Prairie Fires.

We regret to learn from Washington Co., Iowa, that some of the best and wealthies farmers in that county have had their houses, barns and their grain and all belonging to them, swept away by the devouring element. The usual precaution, although simple and effectual against the burning of the prairies, were neglected, and the consequence is that many of the best improved farms in that county have been shockingly damaged. The fire was more extensive in its ravages than ever known before.

Arctic Expedition.

A letter has been received from Dr. John Rae, dated at York Factory, Hudson's Bay, on the 21st of September last, in which he gives an interesting description of a successful expedition undertaken by him in July, 1846, under the direction of the Hudson's Bay Co., for surveying that part of the Arctic coast at the north eastern angle of the American continent which remained unexplored. He had successfully executed his mission, and returned after having traced the coast all the way from Lord Mayor's Bay to within a few miles of the Straits of Fury and Hecla, and having proved the correctness of Sir John Ross's supposition, that Boothia Felix is a peninsula.—He left Fort Churchill with a party of thirteen men, July 6, 1846, and returned there, after a most difficult and adventurous journey, Sept. 6, 1847.

In the middle ages, in France, a person convicted of being a calumniator was condemned to place himself on all-fours, and bark like a dog, for a quarter of an hour. If this custom were adopted at the present day, there would be some bow-wowing.

Splendid Bridge.

In the Harrisburg, Pa, Union, we find the following interesting account of the constructing and repairing the bridge at that place :—

The Harrisburg Bridge, which was swept away by the great freshet of 1846, was opened for general travel recently, and quite a number of wagons and carriages have since passed over it, which is sufficient evidence that this old favorite of our borough will do its proportion, if not more, of the travelling business. The company last spring invited proposals for rebuilding the bridge, and subsequently made a contract with Messrs. Holman, Simon and Updegrove, for rebuilding the portion of the bridge between Foster's Island and the borough. These enterprising contractors commenced operations on the 12th of May last, and have since rebuilt five heavy piers, about forty feet high, with the exception of the foundations and a few feet above low water which were sound, and two of the wing walls to the abutments, and have hewed and dressed all the timbers, erected the bridge and had it ready to open for travel in the short space of four months and twelve days from the time they commenced operations upon it. The whole length of the bridge is 1414 feet, and the spans are from 200 to 255 feet from centre to centre. The bridge is on the arch and truss plan with the floor running lengthwise, which is different from the general plan of flooring bridges, but in the manner in which this is constructed, it is believed to be an improvement. The timber in this structure is all sound and free from defects, the mechanical work of the very best kind, the plan good, and in our opinion it is one of the very best bridges on the Susquehanna, and should recommend these contractors to all companies having similar structures to erect.

The plan of the bridge was designed and drawn by Samuel Holman, a self-taught architect and self-made man. It reflects the highest credit upon him, and entitles him to rank among the first architects and bridge builders of the country. Mr. H. has had great experience in the erection of structures of the kind, and has never failed to give satisfaction in all his contracts. He has just completed the State Bridge at Clark's Ferry, the frame work of which he put up last fall, while acting as supervisor on the canal, saving thereby to the commonwealth some ten or twelve thousand dollars. This bridge also is a model that it would be well for some of our modern bridge builders to pattern after. Mr. H. is one of our most enterprising and intelligent mechanics whose uprightness of character has established him a reputation, and whose industry has led to that success in business which it is pleasant to witness. There is nothing gives us greater pleasure than to notice the success of our enterprising mechanics.

Picture Frames.

A method has been invented in England of making picture frames by machinery. Any of the common forms technically termed ogee, evolo, bevel hollow, etc., can be enriched with the most delicate work, similar to engine turning, or by arabesques of any design. The principal is simply to pass any length of frame under a roller in which is cut the desired pattern, which is driven by a steam-engine. The wood which is passed under it receives at any length the impress of more delicate tracery than can be engraved on the metal. Beautiful ornamental frames made by this process can be afforded for about sixteen cents per foot.

Coffee.

The coffee plant was first known in Persia, and from that country was brought into Arabia and Egypt. In the West Indies. it produces a crop once a year. The plant is of slow growth and about the third year attains the height of four feet and is then topped, and never grows higher. The third year bears slightly, the fourth pretty well, the fifth better, and the sixth it reaches its best bearing age, yielding about a pound of coffee cured to each tree. It is said not to bear much after it is forty years of age It is said that "coffee berries are remarkably disposed to imbibe exhalations from other bodies, and therefore coffee should be kept closed up as much as possible, and always from spices and other domestic stores.

TO CORRESPONDENTS.

"E. B. R. of Mass."—We cannot tell who operated in the case of deafness, referred to in Philadelphia. We have no doubt, but similar cases may be equally treated in this City and many other places

"A. H. of Maine."—Your plan for centering pullies, rings and shafts is good and simple and so far as we are acquainted with it entirely new. We think that it would be saleable. It would undoubtedly be a great acquisition to all shops where there is much turning.

"H. P. C. of Mass."—Some magnets lose their power much sooner than others, but a magnet that will lift 12 pounds does not lose its power by performing the operation. That there is a loss of power after long operation, is a fact but it is very minute and we are not aware of any rule for calculating exactly, nay we believe it is impossible to do so, as the induring power of some magnets is so superior to others.

The principle of the electric current so far as has been discovered is that when the positive current is set free from its pole, it seeks by a determinative law like that of gravity, the nearest connecting road to return again There are deep investigations going on at this present moment, to prove that the axis of the earth is a great magnet and that the currents of electricity generated are the causes of volcanic phenomena.

"J. S. of Maine."—Your verses strike a noble theme and we would be happy to publish them, but if you look carefully over them you will perceive that they want much polishing. Compare them with the smooth measures of some of the masters and you will be far better pleased with yourself when you make the improvement. The sentiments and ideas are good and when you smooth the versification you will not want merely the signature of Fons.

"J. A. of Pa."—Your communication has been received and your views regarding the publications of engravings of inventors are judicious. If all inventors would publish (and it would not cost them much for an engraving) a description of their Patent it would do both themselves and the whole community an incalculable amount of good. This would indeed be carrying out by a most economical method the suggestions of the Commissioner of Patents. The Sci. American is undoubtedly from its large circulation the best medium of publishing advertisements of inventions. There is one man in this City, who would have saved five hundred dollars had his machine been published by an engraving last year in our paper. We hope your washing machine will be the grand result.

"I. E. of Mo."—We can dye the Prussian Blue on cloth, but the receipt is a rare one, and there are not many who know it. It is too valuable to part with so easily.

"———, Orlskany Falls, N. Y."—Unless you send us three dollars (good money,) in exchange for the three dollar counterfeit bill on the National Bank this city, which we received from you a month since, but immediately returned, we shall be disposed to publish your name with the full particulars respecting it.

T. S. Pine Bluff, Miss."—Your volume is bound and ready for you when you order how it shall be forwarded

"J. L., Houston, Miss."—Your order was filled duly, and the article sent last Friday week.

"J. A. S. of Ala"—We had but 12 different numbers of vol 1, and those we have forwarded to your address, with volume 2 complete. We have placed to your credit 25 cents, to apply on the last half of vol. 3

"A. H. of N. Y."—We have answered you by mail, also, A. P. C. of Mich—P st. W. of Bristol and W. M. B. of Skeneatles.

Patent Agency.

Applications for Patents made at this office, on the most reasonable terms. Neat drawings, specifications, and engravings of the first character, and cheaper than anywhere else. Notices of new inventions, Agency for the sale of Patent Rights, and all business of that nature, promptly attended to. Those who have patent rights to dispose of will find a good opportunity and field for their sale—such as Horse Power Machines and Waterwheels of every description. The largest circulation in the world for advertisements of inventions, &c.

V. B. Palmer is duly authorized to receive Subscriptions and and a limited number of advertisements for the "Scientific American," in Philadelphia, Baltimore and Boston.

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☞ This paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

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Johnson's Improved Shingle Machine.

THE Subscriber having received Letters Patent for an improvement in the Shingle Machine, is now ready to furnish them at short notice, and he would request all those who want a good machine for sawing shingles, to call on him and examine the improvements he has made, as one eighth more shingles can be sawed in the same given time than by any other machine now in use.

Augusta, Maine, Oct. 1, 1847. J. G. JOHNSON.

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No. 1—Chemical Oil Gold Size for Sign Writing and Striping, &c.

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No. 3—Chemical Dryer, for all kinds of paints—prepared for use. It is one of the most powerful and most convenient, of the kind, ever yet compounded.

N. B. The above gold sizes work as Pleasantly as any common oil color and will gild in 12, 24 or 36 hours.

These compounds are all tested, but should any be found to fail, they can be returned and others given in exchange, or the money refunded, provided they have not been adulterated.

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THE SUBSCRIBER having been engaged in selling American Hardware on commission for 7 years, solicits consignments from manufacturers, and will refer to those who have employed him the above number of years. SAMUEL C. HILLS,
n8 189 Water st.

To Mill Owners.

HAVILAND & TUTTLE'S Patent Centre Vent Pressure Water Wheel.—These wheels are now in successful operation in many towns in Maine, Massachusetts, and Rhode Island, and are found to surpass in power and facility of adaptation any water wheel now in use. This wheel was awarded the silver medal at the Fair of the American Institute recently held in New York and a diploma at the Mechanics' Fair in Boston.

The wheels are manufactured and for sale by the FULTON IRON FOUNDRY CO., South Boston, Mass.,—where the wheels can be seen and any information concerning them had.

Patent Rights for different States, Counties, &c. for sale, as above. n30 3m*

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INVENTORS and Makers of superior Agricultural Implements are notified that the subscriber will sell such articles on commission, and make prompt returns. SAMUEL C. HILLS,
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The improvement consists in being able to use either end of the screw, as occasion requires.

It is capable of raising the heaviest Locomotive with ease, being portable, strong and powerful, and not likely to get out of order.

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JACK SCREWS,
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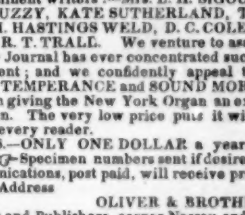

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Patent Inks and Salts of Gold.

(Concluded from our last.)

Seventhly, Mr. Reade manufactures by the improved process following, a marking ink, which may be used with steel pens, and is not only of great intensity of color, but comes out most readily on the application of heat.—He rubs together in a mortar nitrate of silver, and the proper equivalent of tartaric acid in dry state, and then adds water, on which crystals of tartrate of silver are formed and the nitric acid set free. He next neutralizes this acid by adding liquid ammonia, which also dissolves the tartrate of silver, He finally adds gum, coloring matter and water, in the usual way and in quantities which may be varied at pleasure. By this process the nitric acid, which is essential to a good marking ink, is retained, and the tartrate of silver formed is soluble in less than half the quantity of liquor ammonia ordinarily required when tartrate of silver is the bssis of the ink. The tedious operation of filtering and washing the corbonate of silver, in order to form the tartrate, is also thereby entirely dispensed with.

Eighthly, he manufactures, in manner following, a marking ink, differing from the preceding, and all other marking inks containing salts of silver only, in this respect, that it cannot be acted upon by the common solvents of salts of silver, as cyanide of potassium or chloride of lime, and is so far, therefore, more indelible. He takes the ink as it has been formed by the process last described, and add to it as ammoniacal solution of an oxide, or salts of gold. He has used for this purpose the purple of Cassius, the hyposulphite of gold, the ammonio-iodide of gold and the ammonio-periodide of gold. The two last salts which he believes to be new salts, he obtains by dissolving iodine in liquor ammonia under the application of heat, an operation, however, which requires to be conducted with great caution, in order to prevent the formation of the explosive compound, the teriodide of nitrogen. This iodine solution is a very speedy solvent of gold. If gold leaf be placed upon it without the addition of water, a black oxide of gold is formed, which immediately dissolves, but if it be diluted with water, the process of oxidation is less rapid, and the gold leaf assumes a fine purple color, (not black,) before solution. This salt of gold crystalizes in four sided prisms, which are soluble in water. A few drops of this solution placed on a slip of glass generally form microscopic arborescent crystals, from which, under the application of heat, both the iodine and ammonia may be volatilized, and arborescent metallic gold alone remains. If a moderate heat only is employed, one equivalent only of iodine is dispelled and white crystals of ammonio-iodide of gold remain.

Ninthly, he manufactures a blue printing ink by taking the soluble precipitate of cyanogen and iron, obtained by the process described under the first head of this specification, and rubbing up the same in oil, after the manner ordinarily followed in the manufacture of printing inks; or by boiling down the blue writing ink produced by the said process to a sufficient consistence, and then rubbing up the same in oil.

Tenthly, he manufactures a black printing ink, by boiling down the black writing ink produced from the materials, and by the process described under the fifth head of this specification, and rubbing it up in oil as aforesaid.

Eleventhly, he manufactures a red printing ink by taking the ammoniacal solution of cochineal, obtained by the process described under the sixth head of this specification, and rubbing it up in oil as aforesaid.

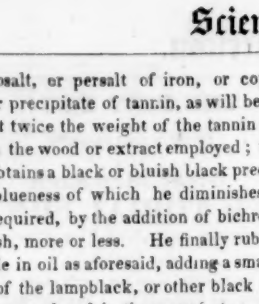
And twelfthly, he manufactures a black printing ink by boiling chips of logwood, for which an extract of logwood may be substituted, or other dyewoods containing coloring matter and tannin, along with as much of a protosalt, or persalt of iron, or copper, or other precipitate of tannin, as will be equal to about twice the weight of the tannin contained in the wood or extract employed; whereby he obtains a black or bluish black precipitate; the blueness of which he diminishes as may be required, by the addition of bichromate of potash, more or less. He finally rubs up the whole in oil as aforesaid, adding a small quantity of the lampblack, or other black coloring matter employed in the manufacture of black printing inks.

Weighing Machine of the Bank of England.

The most interesting place connected with the machinery of the Bank of England is the weighing office, which was established a few years ago In consequence of a late proclamation concerning the gold circulation, it became desirable to obtain the most minute accuracy, as coins of doubtful weight were plentifully offered. Many complaints were made that sovereigns which had been issued from one office were refused at another, and though these assertions were not always founded on truth, yet it is more than probable that the evil occasionally occurred. Every effort was made by the directors to remedy this complaint, some millions of sovereigns being weighed separately, and the light coins being divided from those which were full weight.—Fortunately the governor for the time being, before whom the complaints principally came had devoted his thoughts to scientific pursuits and he at once turned his attention to discover the cause which operated to prevent the attainment of a just weight. In this he was successful, and the result of this inquiry was a machine remarkable for an almost elegant simplicity. About eighty or a hundred light and heavy sovereigns are placed indiscriminately in a round tube; as they descend on the machinery beneath, those which are light receive a slight touch, and this moves them into their proper receptacle, while those which are of the legitimate weight pass into their appointed place. The light coins are then defaced by the sovereign-cutting machine, observable alike for its accuracy and rapidity. By this two hundred may be defaced in one minute, and by the weighing machine 35,000 may be weighed in one day.

MECHANICAL MOVEMENTS.

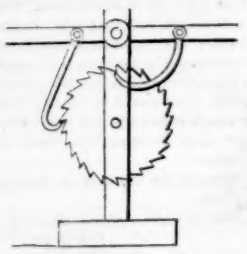
Transferring Circular Motion.



This cut is a representation of another method of transferring circular motion. The lower combination represents a pointed sliding chisel thrown or moved forward on a screw shaft with the point resting on a lower smooth shaft, cutting a spiral on the same by the revolution of the lower shaft working circularly to shape the spiral and by the revolution of the upper screw shaft moving regularly forward the cutting chisel. The motions of both these shafts are blended and according to the fineness of the thread wanted on the lower shaft, so in proportion must there be a fine chisel mover and a proportionate size of cog wheel on the lower shaft. This is a very beautiful combination of machinery and the connection and motions are plain to every mind

The other combination is a principle by which a gain of speed is made from one large wheel in its connection with two smaller wheels. Every revolution of the larger or driving wheel, causes each of the smaller wheels to revolve once and two thirds of a revolution, supposing there are 15 cogs on each of the small wheels, making 30 in the two, and only 25 cogs in the larger wheel. If the cogs of the two small wheels were combined in one and driven by the larger wheel of the 25 cogs, the *combined* wheel, (using the term for plainness,) would move one sixth slower than the driver, but in the present combination, for every revolution of the larger wheel, the small wheels make jointly three and one third revolutions. This is another beautiful combination and is a clear exhibition of what is called "the loss of power in the gain of speed."

Vibrating Circular Motion.



The vibrating action of the horizontal lever in the upper part of this figure will produce a continuous revolution in the wheel beneath, by means of the two catches, one of which is acting on the wheel while the other is gathering a tooth.

Treatment of a Contrary Horse.

When a horse gets in the way of being contrary and will not go forward at all, it is common to apply the whip freely. Solomon says "a whip for a horse," but he may not refer to cases of this kind. At any rate it is often, where thus used, of no benefit, only the gratification of the enraged driver. A method more successful is to treat the animal very kindly. His contrary disposition is usually the result of having been fretted in some way and kindness may overcome it. Make much of him at all times. Speak kindly to him and so often that he will become accustomed to your voice When he stops when attached to the carriage or a load and will not move, approach him in the same gentle manner. Stroke the mane and pat the hand frequently on the head. Means of this kind will have a powerful tendency to overcome his stubbornness, as brutes feel the power of kindness. Young horses especially, in nine cases out of ten, may be successfully cured of contrary habits in this way, while the application of the whip would only increase the difficulty

To Cleanse Gentlemen's Cloth Coats and Pantaloons.

The writer has tried and seen others try, the following method with remarkable success, on all sorts of broadcloth articles of dress. Take one beef's gall, half a pound of salaratus, and four gallons of warm water.—With a clothes brush dipped in this mixture scour the article, laying it on a table for that purpose. The collar of a coat and the grease spots (previously marked by a stitch or two of white thread) must be brushed with this mixture repeatedly. After this take the article and rinse it up and down in the mixture.—Then rinse it up and dawn in the same way in soft cold water. Then without any wringing or pressing, hang it up to drain and dry.—When dry, dampen with a sponge, and iron on the wrong side, or else spread something between the cloth and iron, ironing till perfectly dry. It is best to rip out pockets and linings, if the articles are worth the trouble. Also brush the article before washing. It is often best to iron no part but the skirt, and press the lappets and cuffs.—*Massachusetts Ploughman.*

The only objection that we have to the above is the *gall.* It leaves behind a very unpleasant smell. The price for cleansing by a good Dyer and Scourer should not be considered too much in comparison with an offensive odor, as there will ever afterwards be in cloth that is dried if but the least remains of gall is left in it.

To Preserve Oranges.

Boil oranges in clear water, until you can pass a straw through the skins; then clarify three-quarters of a pound of sugar to one pound of oranges, and pour over the fruit while hot; let them stand one night, then boil them in the syrup until they are clear, and the syrup thick. Take them from the syrup and strain it clear over them.

Sensations in the Air.

A young lady who accompanied Mr. Gypson the aeronaut in his balloon ascent from Birmingham says;—"To me the sensations of the ascent possessed a peculiar pleasantness, which it would be difficult to describe. It appeared as if the car of the balloon, together with all connected with it, remained just as it was, while the earth and its inhabitants sunk, away from us, and left us suspended stationary betwixt earth and heaven. The beautiful flood of light and soft silver-like scenery that burst forth it would be in vain for me to attempt to describe.

Pneumatic Palates.

Under this title an article has appeared in the London Times, describing the mode of fixing false teeth in people's mouths, and enabling them, by means of a "vacuum," to munch and masticate with the greatest ease and vigor. If the inventor of this contrivance could manage to remove the vacuum existing in the stomachs of the thousands of hungry mendicants which swarm the streets of London, those persons would neither trouble him for false teeth or palates. As far as the pneumatic principle is concerned, they are, for the most part, practical illustrations of the system of being "blown out" with nothing but wind.

Death by a Dissecting Wound.

A young man named Crawford, of Georgia, and a member of the Jefferson Medical School of Philadelphia, came to his death a few days ago, in that city, from the effects of a slight puncture received in one of his hands, whilst engaged in dissecting.

Puddling Iron.

Some of our readers may not understand the term "puddling iron." It is simply putting pigs or scraps of iron in a heated furnace, where it melts and boils, being constantly stirred, until it becomes dry or hard enough to form a ball. It is then taken from the furnace, put under heavy rollers, and made into blooms, which are drawn between other rollers into rods or bars to suit customers

☞For terms see inside